



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/567,561

02/08/2006

Kota Iwamoto

040447-0276

6623

22428 7590 01/30/2009
FOLEY AND LARDNER LLP
SUITE 500
3000 K STREET NW
WASHINGTON, DC 20007

EXAMINER

WOLDEMARIAM, AKILILU K

ART UNIT

PAPER NUMBER

2624

MAIL DATE

DELIVERY MODE

01/30/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/567,561	Applicant(s) IWAMOTO, KOTA	
	Examiner AKLILU k. WOLDEMARIAM	Art Unit 2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 January 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-79 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-79 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-4, 25-32 50-51 and 59 are drawn to compare a feature quantity for each divided small region of an inquiry image with a feature quantity for each divided small region of a reference image, classified in class 382, and subclass 190.
 - II. Claims 5, 8-9, 21-22, 52, 60, 68, and 77 are drawn to an image similarity calculation system, classified in class 382, and subclass 220.
 - III. Claims 6, 10-11, 53, 61 and 69-70 are drawn to based on probability distribution of the number of local regions classified in class 382, subclass 195
 - IV. Claims 7, 12-13, 54, 62, 71-72 and 78-79 are drawn to modify the overall image's similarity using a threshold value for determining a match between images classified in class 382, subclass 171, 172 and 173
 - V. Claims 14, 55 and 63 are drawn to local region using a learning image, classified in class 382, and subclass 155.
 - VI. Claims 15, 56 and 64 are drawn to a local region weight calculation means to configured to calculate a weight value for each local region in an image as a local region weight value based on the local region editing probability, classified in class 382, subclass 272
 - VII. Claims 16, 18, 57 and 66 are drawn to small region feature quantity extraction means configured to extract a feature quantity for each small

- region from the divided small regions as an inquiry image small region feature quantity, classified in class 382, subclass 190, 272 and 160
- VIII. Claims 17, 58, 65 and 68 are drawn to calculate an image similarity between the inquiry image and the reference, classified in class 382, subclass 171, 172 and 173.
- IX. Claims 33 and 41-49 are drawn to an image retrieval system, classified in class 358, 382, subclass 159, 172 and 190.
- X. Claims 34 and 42 are drawn to retrieval result output means configured to output a retrieval result for the inquiry image from the reference image group based on the image similarity calculated by the image similarity calculation means for each reference, classified in class 358, 382, subclass 192 and 160
- XI. Claims 35, 37, 40 and 75 are drawn to reference image group small region feature quantity storage means configured to store small region feature quantities for respective reference images in a reference image group composed of a plurality of previously registered reference images, classified in class 358, 382, subclass 172 and 192
- XII. Claims 36, 73-74 and 76 are drawn to retrieval result output means configured to output a retrieval result for the inquiry image from the reference image group based on the image similarity calculated by the image similarity calculation means for each reference image, classified in class 356, 358 and 382, subclass 171, 172

Art Unit: 2624

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I, II, III, IV, V, VI, VII, VIII, IX, X, XI and XII are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and (2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because Group I is too broad. The subcombination II has separate utility such as an image similarity calculation system. The subcombination III has separate utility such as based on probability distribution of the number of local regions. The subcombination IV has separate utility such as to modify the overall image's similarity using a threshold value for determining a match between images. The subcombination V has separate utility such as local region using a learning image. The subcombination VI has separate utility such as a local region weight calculation means to configured to calculate a weight value for each local region in an image as a local region weight value based on the local region editing probability. The subcombination VII has separate utility such as small region feature quantity extraction means configured to extract a feature quantity for each small region from the divided small regions as an inquiry image small region feature quantity. The subcombination VIII has separate utility such as calculate an image similarity between the inquiry image and the reference. The subcombination IX has separate utility such as an image retrieval system. The subcombination X has separate utility such as retrieval result output means configured to output a retrieval

Art Unit: 2624

result for the inquiry image from the reference image group based on the image similarity calculated by the image similarity calculation means for each reference.

The subcombination XI has separate utility such as reference image group small region feature quantity storage means configured to store small region feature quantities for respective reference images in a reference image group composed of a plurality of previously registered reference images. The subcombination XII has separate utility such as retrieval result output means configured to output a retrieval result for the inquiry image from the reference image group based on the image similarity calculated by the image similarity calculation means for each reference image.

The examiner has required restriction between combination and subcombination inventions. Where applicant elects a subcombination, and claims thereto are subsequently found allowable, any claim(s) depending from or otherwise requiring all the limitations of the allowable subcombination will be examined for patentability in accordance with 37 CFR 1.104. See MPEP § 821.04(a). Applicant is advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application.

Conclusion

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to AKLILU k. WOLDEMARIAM whose telephone number is

Art Unit: 2624

(571)270-3247. The examiner can normally be reached on Monday-Thursday 6:30 a.m-5:00 p.m EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Le can be reached on 571-272-7424. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Samir Ahmed
Examiner
Art Unit 2624

/A. k. W./
Examiner, Art Unit 2624
1/23/2009

/Brian Q Le/
Primary Examiner, Art Unit 2624